School of Mathematics

Course 1E1 – Engineering Mathematics 1
(JF Engineers & JF MSISS & JF MEMS )

Lecturer: Dr. M. Kurth

Requirements/prerequisites: None

Duration: 24 weeks

Number of lectures per week: 3, including 1 tutorial

Assessment: Weekly homework, exams after each term (see below for grading)

End-of-year Examination: Yes (3 hour)

Description: See http://www.maths.tcd.ie/~mkurth/1E1/1E1.html for more complete information.

(First 8 chapters of textbook)

• Limits and Continuity

• Derivatives

• Applications of Derivatives

• Integration

• Applications of Integration (Volumes by slicing, volumes of solids of revolution, volumes by cylindrical shells, lengths of plane curves, of parametric arcs, moments and centers of mass of thin rods)

• Transcendental Functions (Logarithms, exponential functions, inverse trigonometric functions, hyperbolic and inverse hyperbolic functions)

• Techniques of Integration

• Infinite Series

Textbooks:
Thomas’ Calculus (10th edition), Addison Wesley Longman 2001(!).

March 3, 2006